Fig. 1

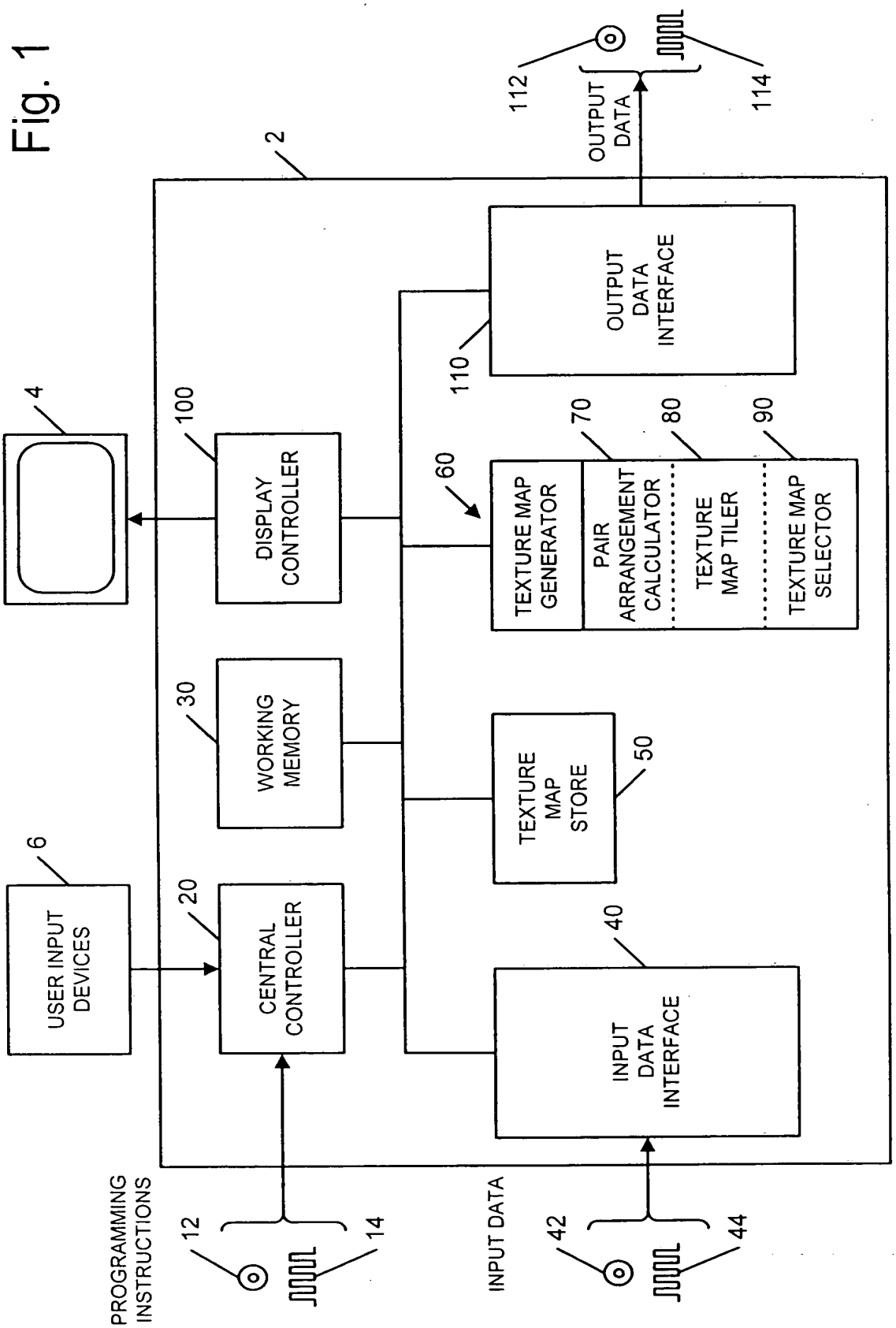

2
4
6
12
14
20
30
40
42
44
50
60
70
80
90
100
110
112
114
USER INPUT DEVICES
CENTRAL CONTROLLER
WORKING MEMORY
TEXTURE MAP STORE
INPUT DATA INTERFACE
DISPLAY CONTROLLER
TEXTURE MAP GENERATOR
PAIR ARRANGEMENT CALCULATOR
TEXTURE MAP TILER
TEXTURE MAP SELECTOR
OUTPUT DATA INTERFACE
OUTPUT DATA
PROGRAMMING INSTRUCTIONS
INPUT DATA

Fig.2.

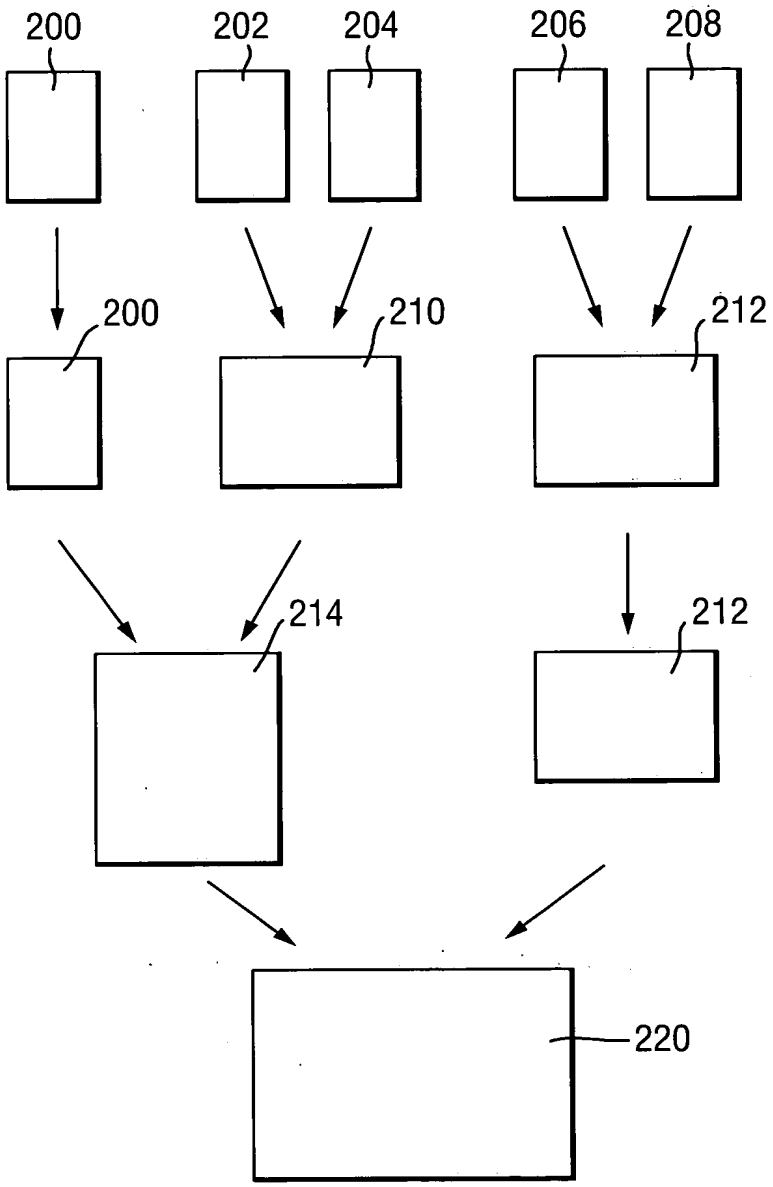


Fig. 3a

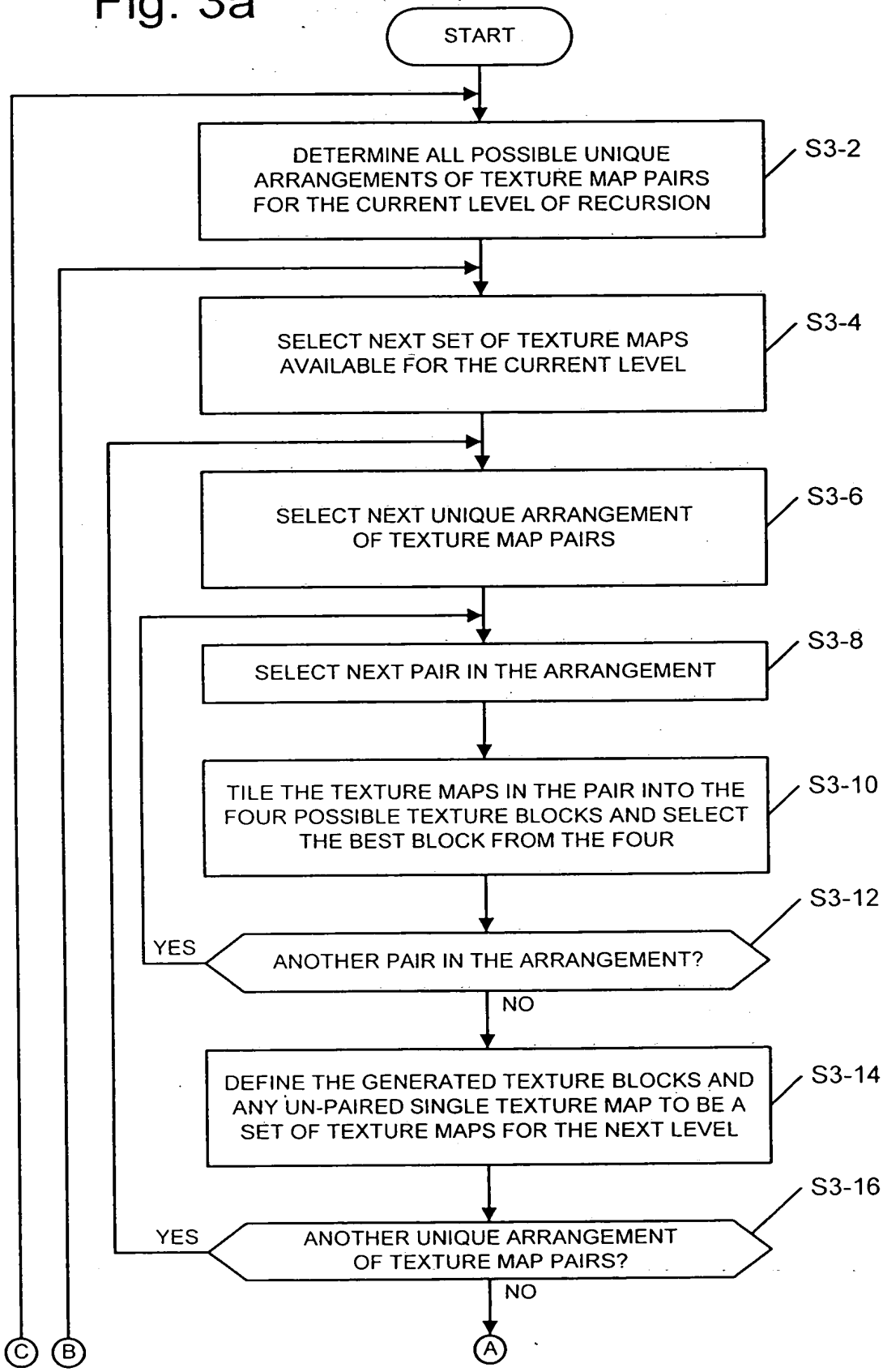

START
DETERMINE ALL POSSIBLE UNIQUE ARRANGEMENTS OF TEXTURE MAP PAIRS FOR THE CURRENT LEVEL OF RECURSION
S3-2
SELECT NEXT SET OF TEXTURE MAPS AVAILABLE FOR THE CURRENT LEVEL
S3-4
SELECT NEXT UNIQUE ARRANGEMENT OF TEXTURE MAP PAIRS
S3-6
SELECT NEXT PAIR IN THE ARRANGEMENT
S3-8
TILE THE TEXTURE MAPS IN THE PAIR INTO THE FOUR POSSIBLE TEXTURE BLOCKS AND SELECT THE BEST BLOCK FROM THE FOUR
S3-10
ANOTHER PAIR IN THE ARRANGEMENT?
S3-12
YES
NO
DEFINE THE GENERATED TEXTURE BLOCKS AND ANY UN-PAIRED SINGLE TEXTURE MAP TO BE A SET OF TEXTURE MAPS FOR THE NEXT LEVEL
S3-14
ANOTHER UNIQUE ARRANGEMENT OF TEXTURE MAP PAIRS?
S3-16
YES
NO
C
B
A

Fig. 3b

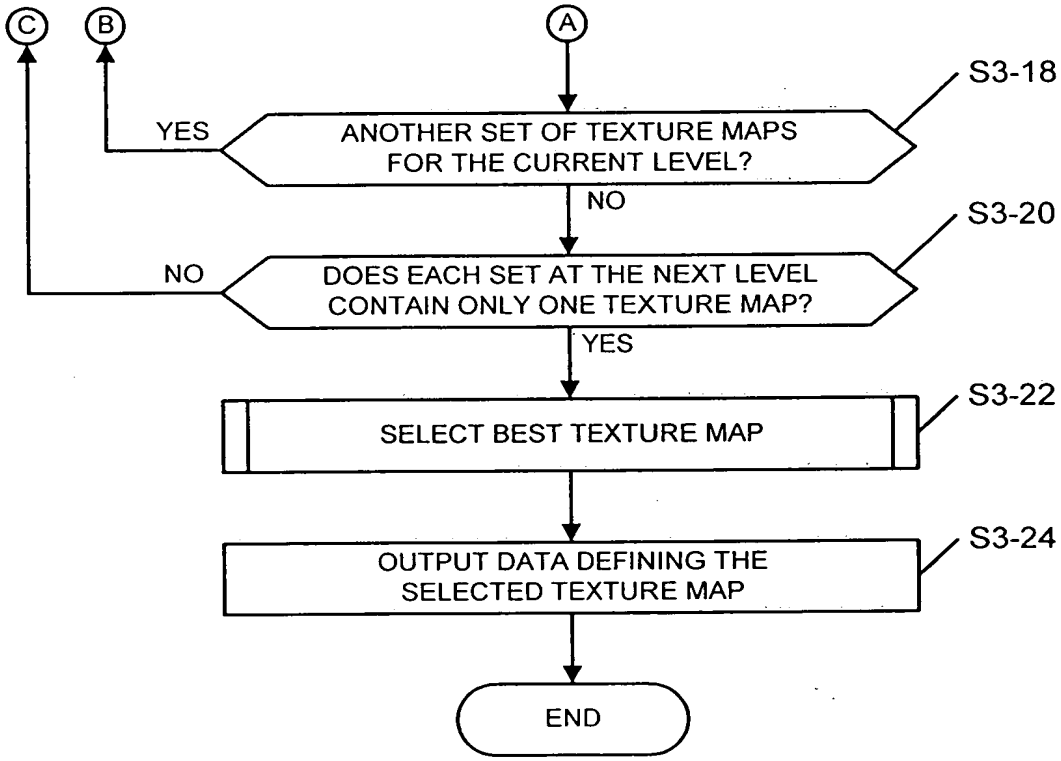
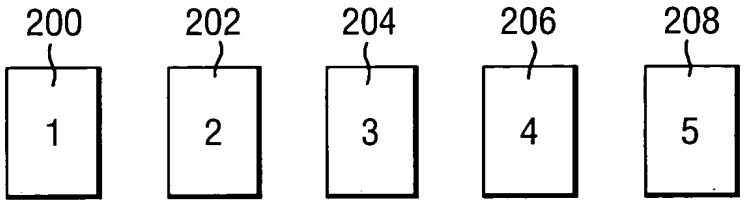

C
B
A
S3-18
YES
ANOTHER SET OF TEXTURE MAPS FOR THE CURRENT LEVEL?
NO
S3-20
NO
DOES EACH SET AT THE NEXT LEVEL CONTAIN ONLY ONE TEXTURE MAP?
YES
S3-22
SELECT BEST TEXTURE MAP
S3-24
OUTPUT DATA DEFINING THE SELECTED TEXTURE MAP
END

Fig.4.



2-3 ; 4-5 ; 1
2-4 ; 3-5 ; 1
2-5 ; 3-4 ; 1
1-3 ; 4-5 ; 2
1-4 ; 3-5 ; 2
1-5 ; 3-4 ; 2
1-2 ; 4-5 ; 3
1-4 ; 2-5 ; 3
1-5 ; 2-4 ; 3
1-2 ; 3-5 ; 4
1-3 ; 2-5 ; 4
1-5 ; 2-3 ; 4
1-2 ; 3-4 ; 5
1-3 ; 2-4 ; 5
1-4 ; 2-3 ; 5

Fig.5.

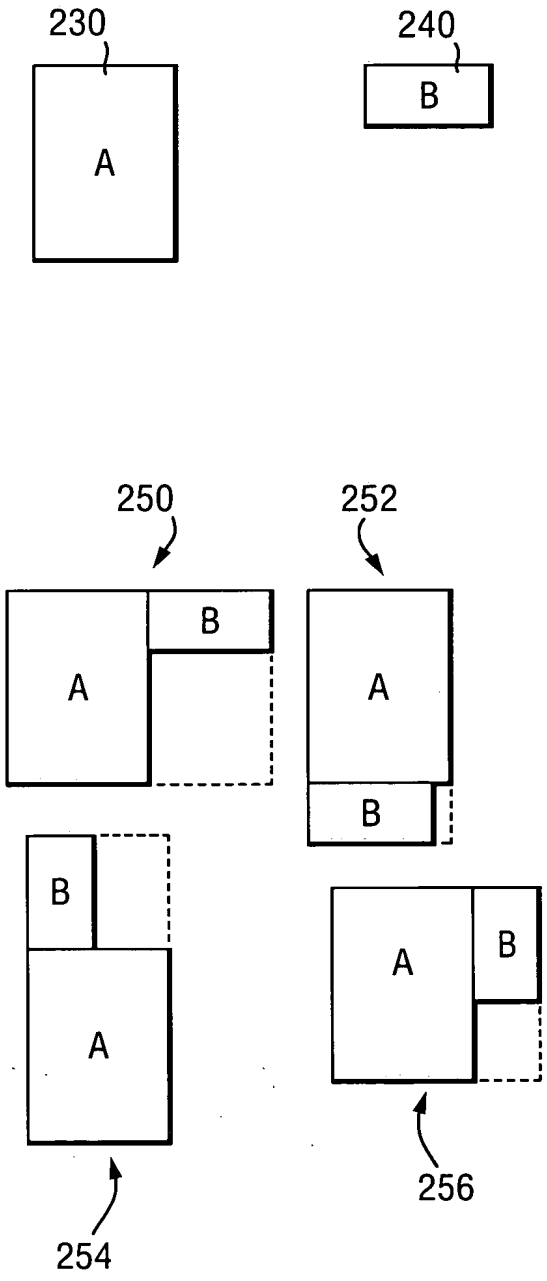


Fig.6.

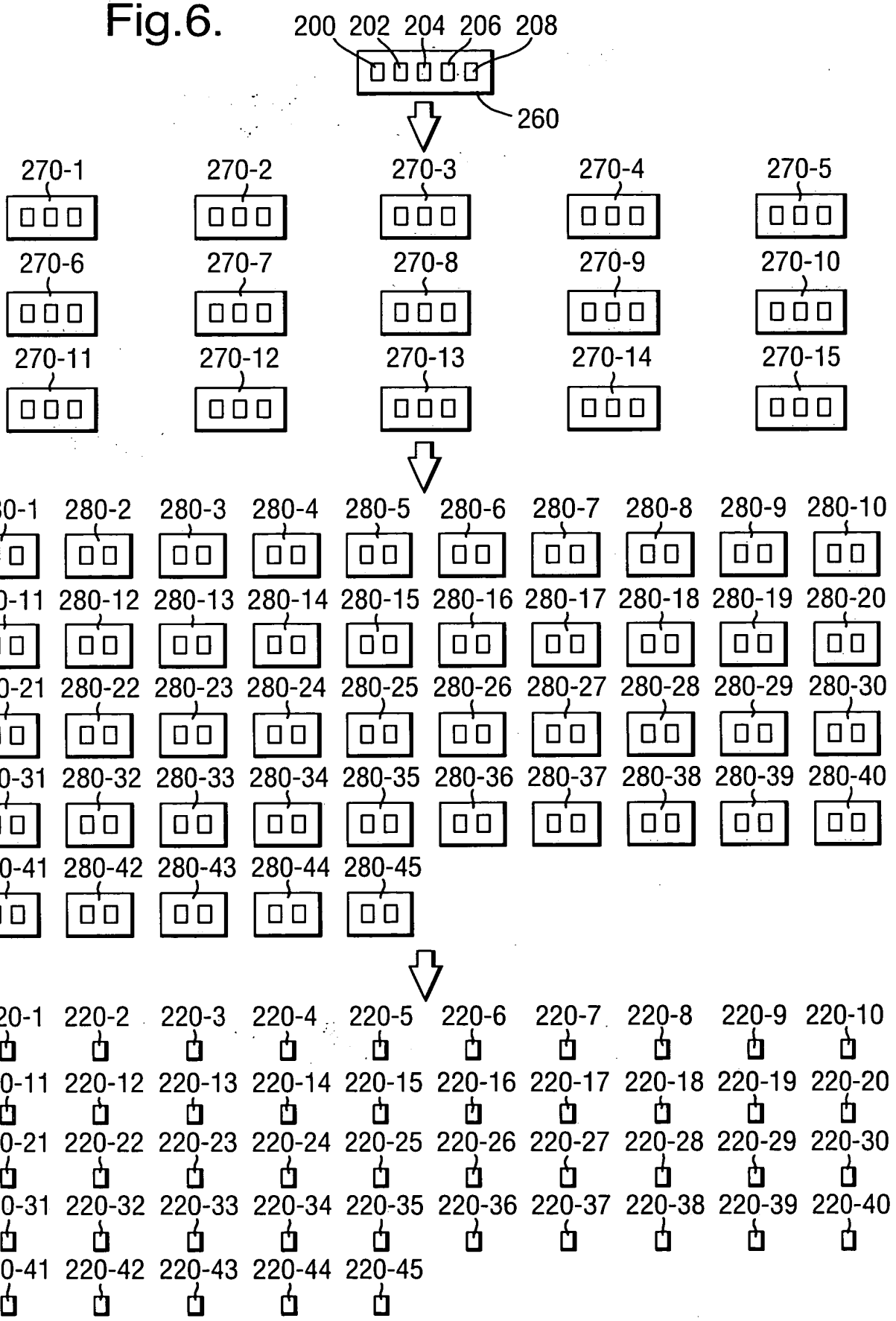
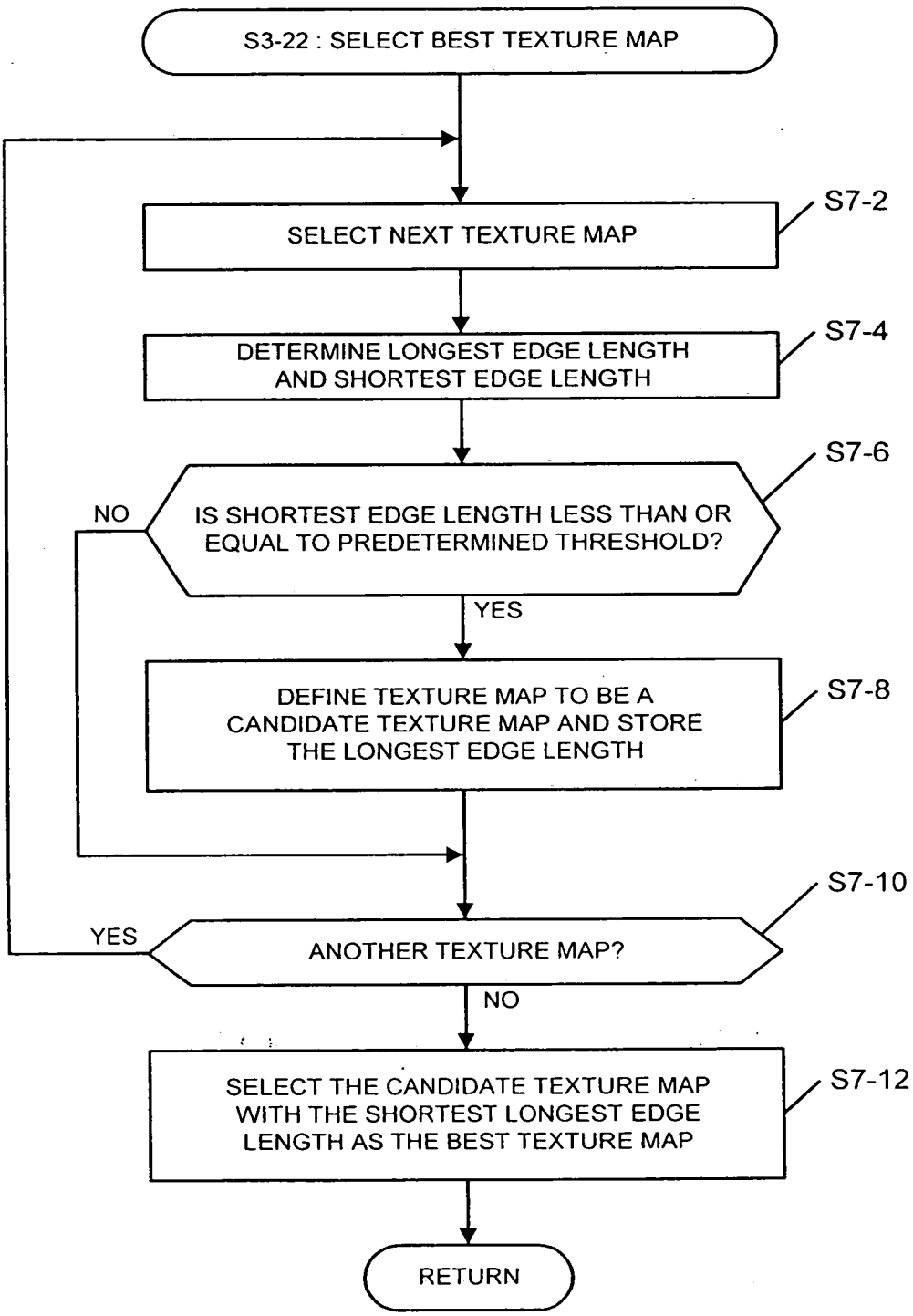

200 202 204 206 208
260
270-1 270-2 270-3 270-4 270-5
270-6 270-7 270-8 270-9 270-10
270-11 270-12 270-13 270-14 270-15
280-1 280-2 280-3 280-4 280-5 280-6 280-7 280-8 280-9 280-10
280-11 280-12 280-13 280-14 280-15 280-16 280-17 280-18 280-19 280-20
280-21 280-22 280-23 280-24 280-25 280-26 280-27 280-28 280-29 280-30
280-31 280-32 280-33 280-34 280-35 280-36 280-37 280-38 280-39 280-40
280-41 280-42 280-43 280-44 280-45
220-1 220-2 220-3 220-4 220-5 220-6 220-7 220-8 220-9 220-10
220-11 220-12 220-13 220-14 220-15 220-16 220-17 220-18 220-19 220-20
220-21 220-22 220-23 220-24 220-25 220-26 220-27 220-28 220-29 220-30
220-31 220-32 220-33 220-34 220-35 220-36 220-37 220-38 220-39 220-40
220-41 220-42 220-43 220-44 220-45

Fig. 7


S3-22 : SELECT BEST TEXTURE MAP
SELECT NEXT TEXTURE MAP
S7-2
DETERMINE LONGEST EDGE LENGTH AND SHORTEST EDGE LENGTH
S7-4
IS SHORTEST EDGE LENGTH LESS THAN OR EQUAL TO PREDETERMINED THRESHOLD?
S7-6
NO
YES
DEFINE TEXTURE MAP TO BE A CANDIDATE TEXTURE MAP AND STORE THE LONGEST EDGE LENGTH
S7-8
ANOTHER TEXTURE MAP?
S7-10
YES
NO
SELECT THE CANDIDATE TEXTURE MAP WITH THE SHORTEST LONGEST EDGE LENGTH AS THE BEST TEXTURE MAP
S7-12
RETURN